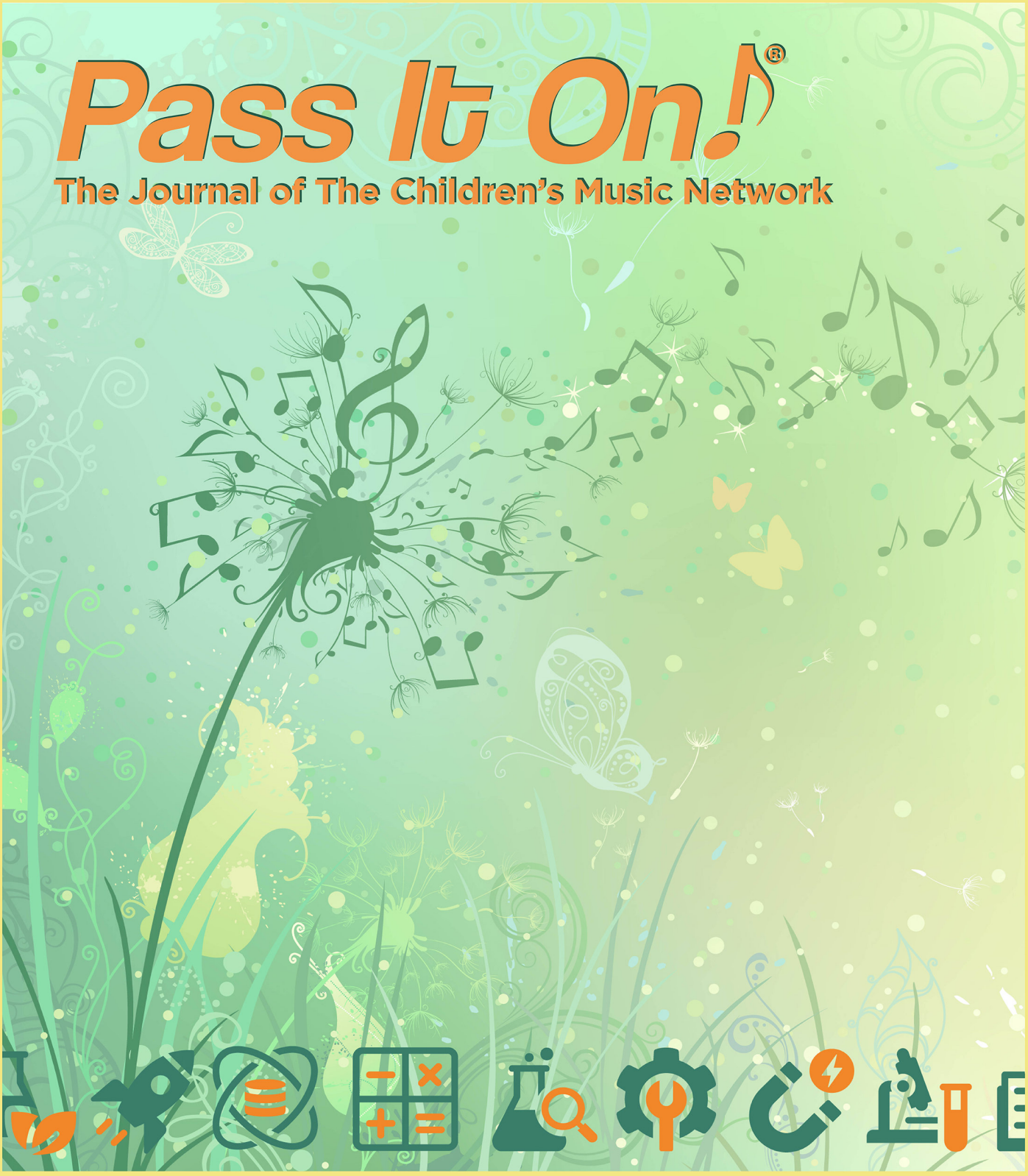
Pass It On!®

The Journal of The Children's Music Network



Spring 2025 | Issue #105

Science in Bloom

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Increasing Diversity in STEM With the Power of Music

As someone passionate about airplanes, I was drawn to the aerospace engineering field and journeyed to become an aerospace engineer so I could design airplanes for a living. Along the way, however, I—a Black, Puerto Rican, and Mexican engineer—often found myself as the only person of color, or one of just a few. While I was determined to persevere, I couldn't help but wonder: Why weren't there more people who looked like me in STEM? Page 3.

Follow Your Wow: An Interview With Carly Ciarrocchi

Whether she's talking to preschoolers or policymakers, Carly's work invites all ages to create, imagine, explore, fail, connect, bounce, wonder, feel, and play more—together. Page 8.

Pass It On! Scholars Award Essay

Ever since I can remember, children's music has surrounded me. It's literally been my life, from listening to it on the radio on the way to school or performing with my mom's band. Page 14.

Playlists: Full STEM Ahead

Songs to help kids rock, swing, and jam their way to scientific knowledge. Page 16.

The Scientific Method

Isn’t it incredible that throughout history, people have built knowledge by making guesses and testing them out?
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Increasing Diversity in STEM With the Power of Music

by Roy Moye III[1]

STEM—Science, Technology, Engineering, and Mathematics—is a world full of exploration, ingenuity, and innovation. As someone passionate about airplanes, I was drawn to the aerospace engineering field and journeyed to become an aerospace engineer so I could design airplanes for a living. Along the way, however, I—a Black, Puerto Rican, and Mexican engineer—often found myself as the only person of color, or one of just a few, in the rooms I studied and worked in. While I was determined to persevere, I couldn't help but wonder: *Why weren't there more people who looked like me in STEM?*

According to the National Science Foundation, Black STEM professionals make up only 9 percent of the industry, while Latino STEM professionals make up just 15 percent. These numbers are notably lower than the overall Black and Latino populations in the United States, which are 13 percent and 19 percent, respectively. This disparity left me questioning how I could contribute to changing these statistics.

Discovering the Power of Music in STEM Education

In 2016, I was volunteering in a nonprofit organization with a group of young, predominantly Black boys, ages eight to sixteen. Every couple of months, I was asked to lead STEM lessons within our organization. The activities were hands-on and engaging, from gumdrop bridges to parachute egg drops to paper airplanes. One day, the leader of our organization requested that I give a forty-five-minute math lesson.

I was hesitant. Despite having a math minor, I wasn't a huge fan of the subject, and I knew the kids weren't exactly excited about it either. But then I had an idea: *How could I make this lesson fun?* How could I engage my students and bring excitement to the table?

That's when inspiration struck. I realized that when I was in college, I had used music to help myself grasp difficult concepts. Why not try the same approach here? There was a popular song at the time—"Watch Me (Whip/Nae Nae)" by Silentó—that my students loved. Every time it played, they would get up, dance, and have a party. I decided to remix the song, changing the lyrics to "Watch Me Solve the Equation." I rewrote the verses to feature a simple algebra problem and decided I would perform it for my students.

Video for "Watch Me Solve the Equation"

A Lesson That Changed Everything

When I began the math lesson, my students moaned and groaned at the thought of doing math for forty-five minutes. After hearing the frustration, I announced I had a special performance for them. As soon as the beat dropped, I started singing, "Watch me solve the equation, watch me solve, solve the equation." To my surprise, the room exploded with excitement. The students not only started dancing but also began eagerly solving the algebra problems on the white board at the front of the classroom. The energy in the room shifted. What had seemed like a boring, difficult task became something fun, interactive, and engaging. The kids sang the song as they solved math problems, and they kept singing it even after the session ended, until their parents arrived to pick them up.

That day, I realized the incredible power of music to make STEM more accessible and exciting for students, especially those in underrepresented communities. Music had transformed a challenging subject into something enjoyable, and it connected the students to the material in a way traditional methods never had.

Using Music to Bridge the Gap in STEM

After that experience, I began to think more about how music could play a larger role in increasing diversity within STEM education. We all remember learning our ABCs through songs or memorizing history and grammar with *Schoolhouse Rock* jingles. TV shows like *Bill Nye the Science Guy* and *Reading Rainbow* also used music and entertainment to make learning fun. I wanted to build on that legacy, using music to show Black and Brown students that they belong in STEM—and that high-paying careers in these fields could change their lives and the communities they represent.

Diversity in STEM is crucial for all of us. It ensures that the technology, systems, and services we develop are inclusive and serve everyone—not just a select few.

Launching STEMusic

In November 2019, after overcoming fears and doubts, I launched my small business, STEMusic LLC[2], with the mission to inspire the next generation of STEM professionals through engaging and entertaining music. Through STEMusic, I now have the privilege of showcasing the world of STEM to students from diverse backgrounds, using songs that uplift, educate, and entertain.

I visit libraries, children's museums, festivals, schools, and conferences, bringing fresh energy to students and showing them how STEM can be part of their lives through songs like "Doin' the Math":

> Me and math really haven't been friends,
> But can I tell you that's not where this story ends?
> See, calculations are needed in this life, yeah
> Like when I'm at the store, I need to pay the right price

Or "Show Us How You STEM":

> That's right, you were born for STEM.
> Go ahead and break up all the stereotypes.
> Tell 'em that you're gonna take flight—
> You could write a code that will send a spaceship out of sight
> And if you fail, keep trying with all your might.
> Reppin' STEM for life!

Or "We Call it STEMusic":

> Listen up to what I have to say
> STEM can lead you to a better way
> It's hard work but that's okay
> Cause ain't nobody really crying about the pay

Each song opens up a conversation, allowing students to see that they, too, have a place in STEM.

The Impact of STEMusic

One of the things I love about STEMusic is the impact it has on students, teachers, librarians, and parents. I'm often marketed as a children's music artist (which I totally am!), but my audiences do not expect the type of singing or rapping that I present in my concerts. Teachers and parents are often shocked once I start the first song, "We Call it STEMusic." They go from a mindset of "I'll just be on my phone while my kids enjoy this," or "I'll be watching to make sure my students behave," to being fully immersed in the STEMusic experience.

After concerts, parents share comments like "This was so cool!" "I learned so much and wasn't even expecting to be this engaged," and "Thank you for making this music for our kids . . . they need it." Teachers share phrases like, "I was not expecting that!" "This, by far, was the best school assembly we've had, and I've been teaching here for years!" and "My kiddo, who is always causing distractions in class, was engaged the entire time. I've never seen him like this. You were phenomenal!"

Although I cherish those compliments, it is the comments from the kids that warm my heart the most. Often, after a STEMusic concert, kids will randomly bear-hug me to thank me for spreading so much joy. Some students compare me to other music artists like Drake or Eminem, which is always flattering but also hilarious because I'm nowhere close to where those artists are, in my opinion.

Some students mention that this was their favorite school assembly and ask if I'm going to return the next day. My favorite compliment is when a kid starts the concert with their arms folded and isn't really interested in what I have to offer, but at the end of the concert, they're on their feet, incredibly engaged and excited. For me, this is what STEMusic is all about! How do we get students from all backgrounds excited to learn about science, technology, engineering, and math without feeling overwhelmed or intimidated? Music is the way!

One final story about the impact of STEMusic comes from a concert I did in December 2024. I got to the last song of the concert, which is the "Math" song. Right before I performed the song, I asked the audience, "Who wants to do some math?" The response was a few cheers, but there was one distinct "BOOOOO!" from the audience. I zeroed in on that student and told him, "Actually, I feel the same way. I'm not the biggest fan of math either!" He was a bit shocked to hear that. I then said, "Well, let's jump into the song first and then see about doing some math."

As quoted above, the first line of the math song is, "Me and math really haven't been friends, but can I tell you that's not where this story ends?" I sang those lyrics directly to that student and saw his eyes light up once he heard them. Throughout the song, he began to dance more and more. After the song was over, I jumped into the math activity, which involves a large, inflated die that is rolled to provide numbers for simple math problems. After the numbers have been rolled, the audience is responsible for solving the math problems I come up with. If a two and a four are rolled, I might say, "What is 4 − 2?" or "What is 4 × 2?" As usual, the audience shouts out the answer, but during this math game, that student was yelling the answers with everything he had. This was such a rewarding moment! To see a student who literally booed math end up yelling out answers to a math game . . . wow, just incredible!

Incorporating STEMusic

So, how can you incorporate STEMusic in your teaching or interactions with students? Well, first of course, you can play the songs. I'm proud to say we have songs about several topics in STEM from underwater caves to African zoology! STEMusic songs, available on all streaming platforms, are a great way to get students excited to learn about STEM topics you may be trying to present to them. Second, you can build a STEM song of your own with your students. You don't have to be the best singer or rapper to accomplish this. All you have to do is tap into your creativity and collaborate your students to make the perfect STEM song for your class or group.

How to build a STEM chorus:

Step 1: Pick your STEM topic
Step 2: Use words that rhyme
Step 3: Play with your words
Step 4: Make it catchy (repetitive)
Step 5: Have fun!

If you need some kind of music or song to get you started, you can always use a song that already exists and just remix the lyrics!

For example:

> Actual Song
> Don’t stop believing, hold on to that feeling
> Streetlights, people (oh oh oh)!
>
> Your Song (with the same melody)
> Atoms bonded together, a molecule forever
> The foundation of chemistry (oh oh oh)!

Lastly, you can bring me out to your school, library, festival, museum, or any organization. I enjoy touring the country educating and inspiring students and educators on how they can successfully engage with and learn about STEM!

Looking Ahead: STEMusic Takes Flight

As I embark on a new album, *STEMusic Takes Flight*, I’m excited to introduce students to my first love and the reason I even got into STEM: Airplanes! This album will highlight the science behind the wonder of flight, aiming to inspire the next generation of aerospace engineers, pilots, and aircraft mechanics. The fields of science, technology, engineering, and math are forever growing and in need of a diverse workforce that can design a better future for us all. Through the power of music, I believe we can attract, educate, and build that workforce—one song at a time.

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1. http://journal.childrensmusic.org/pass-it-on/author/roy-moye-iii
2. https://www.thestemusic.com
3. https://www.youtube.com/watch?v=VrLROl4_xDM

Follow Your Wow: An Interview With Carly Ciarrocchi

by Marsha Goodman-Wood[1]

Carly Ciarrocchi is an Emmy-nominated performer, writer, musician, and producer. She has spent most of her career in children's media, hosting TV shows like Sunny Side Up *(Sprout),* Snug's House *and* The Big Fun Crafty Show *(Universal Kids), and* Weird But True *(Disney+). All four shows earned Daytime Emmy nominations. As a producer and writer, she's worked with Nick Jr., Amazon Kids, PBS Kids, and Sesame Workshop. She's written music for Sprout/Universal Kids and is a vocalist-songwriter on two Grammy Award-winning children's albums. Carly hosts multiple kids' podcasts, including Tinkercast's* Who, When, Wow! Mystery Edition *and Pinna's* Hey Story Go! *She also serves as cocreator and producer on the latter. Carly is a speaker and emcee, working often with the Lego Foundation and other organizations that advocate for creativity and play. She's the voice of Southwest Airlines and a Moth Storyslam winner. Whether she's talking to preschoolers or policymakers, her work invites all ages to create, imagine, explore, fail, connect, bounce, wonder, feel, and play more—together. This conversation took place on January 21, 2025.*

Marsha: Can you tell us about what roles you play in children's media and the different hats you wear?

Carly: My overarching story is that I make kids' media, and I do that a lot of different ways. Sometimes it's hosting, sometimes it's writing, sometimes it's producing, and sometimes it's a mix of those jobs. Over the last twelve or thirteen years, I've been able to work in television and now, in the last couple of years, podcasts—which has been so fun!

When I was working on the *Sunny Side Up* show, it was a very broad scope of preschool content—we were hitting a lot of different education buckets. I hosted that show for five years, and the show covered a lot of areas of content, but also different styles; so sometimes we were making a craft, sometimes we were singing songs, sometimes making a recipe. Then, later in my career, working on stuff for older kids, it seems like the focus kind of narrowed.

What changed with the shift to making content for older kids?

Weird But True is a science show for ages eight to twelve. That was a show we shot right before the pandemic for Disney Plus and National Geographic. We wrapped the last week of February 2020. We had done eight months of shooting, and we were all ready to just go home and not do anything for a little bit. So, it ended up being brilliantly timed, because by the time it came out, kids were at home and parents were looking for content that felt educational but was also fun.

Something I loved about *Weird But True* is that the show explored science topics through crafts, dress-up, and also meeting experts in the field. In every episode, we were exploring a topic. If any explanations were needed, where in another show they might cut to an animated graphic, all of those moments either happened with two-dimensional, handcrafted, hand-puppeteered pieces, or we would dress up in costume and talk about scientists' discoveries, or we would have interviews with actual experts in the field. I really like projects that come at whatever they're exploring from multiple angles and from angles that bend into this zone of play and creativity that feels really active and repeatable by kids at home. When stuff gets particularly crafty and playful and exploratory, it feels like it's modeling how a kid can follow their own curiosity at home.

Weird But True trailer

To me, kids' questions are often science questions—they're always asking "why, why, why" just like scientists do—so that idea of following their curiosity really resonates. How does that connect to the podcast work you're doing now?

I host *Don't Break the Rules*, an improv game show for kids, and *Hey Story Go!*, a storytelling podcast—neither of which are science-related. But *Who, When, Wow! Mystery Edition*[2] is a podcast that looks at unsolved mysteries throughout history. Curiosity and question-asking is definitely the nugget of that show. It was created by Tinkercast (creators of *Wow in the World*), and the idea of what "wows" you is a thread running through both shows.

My character, called Carly Q—for "question"—is obsessed with anything related to aliens or the supernatural, and she follows the thread of the unsolved mysteries throughout history. Sometimes that leads to a very clear scientific conclusion, but sometimes it leads to a couple of different conflicting theories where nobody knows what's going on. So, what do you do? Do you hold the question? Do you formulate your own theory? I think that helps model a certain type of question-asking and curiosity-following that is certainly explicitly in the realm of a detective or someone who is on a mission, but I think it can be applied to so many academic subjects including harder science, too.

Would you say it's priming them to ask those questions later and giving them a fun route to get there?

Yeah—and Carly Q gets so fired up, which is how I was as a kid about science and mysteries! That feeling of "Oh my gosh! What about this? What could this mean?" and "Did you know that . . .?" Both *Weird But True* and *Who, When, Wow!* sit in that sweet spot where the engines of the shows are hosts who are enthusiastic and passionate and able to follow a theory or a question as far as they can. I think that's a great thing to model for kids.

In my music, my goal is to get kids to have fun with science and think about something new and inspire them to go explore an idea. It sounds like with both of your shows, you're also trying to get kids excited about science and to explore more?

Exactly. Definitely. In *Weird But True*, there were so many ways we were able to set kids up with things they could do at home if they were jacked up about an episode. For example, we did a whole episode with citizen scientists and how you can participate in a science experiment from anywhere. I know that kids were able to learn about that offering from our show.

We did one episode at the National Dinosaur Monument in Vernal, Utah, where we worked with paleontologists and dug up dinosaurs. I had several parents message me after that, like, "Now I'm supposed to be planning a vacation for my family to Vernal, Utah, because of that episode?!" But because we were rooting every episode in real experts sharing about the topics, there was always an invitation that, if you want to follow this thread further, you certainly can. These places we went to are real. The people we talked to are real. We just supplemented all that real exploration with play exploration too. So, not only can you follow your curiosity to real people and places, but you can step into these science experiences by embodying and inhabiting the aspects of the scientists that are interesting to you, which feels very kid appropriate.

> **"Not only can you follow your curiosity to real people and places, but you can step into these science experiences by embodying and inhabiting the aspects of the scientists that are interesting to you."**

Are both shows over, or is there going to be more of either show?

There was just the one season with thirteen episodes of *Weird But True*, which you can still watch on Disney+, but it stands up to time since the technology will be up-to-date and relevant for a while. Same with *Who, When, Wow!*, where we were exploring mysteries of the past with as many up-to-date theories or conclusions as possible, and there are two seasons of that show that are out wherever you listen to your podcasts.

Do you have plans to do more science-related content or have anything along those lines coming down the pike?

I have one TV project in development that's in the maker space, which will involve kids creating and building. It's a tough media landscape right now due to the changing ways families are experiencing their content and their media, which is why I have more podcasts than TV projects.

What are some of your favorite topics you've covered or favorite moments or times when you felt you were really sharing something cool or you just learned something cool?

Well, we shot a scuba diving-themed episode of *Weird But True*, which was an astonishing experience for me. I don't want to say I'm afraid of the water, but I was certainly not a person that felt like I needed to snorkel. To me the ocean is so massive and unknown that I've not felt like I needed to be in it. Halfway through shooting the season they came to me and said that for the final episode they wanted to do a scuba diving show and that everyone else on the cast and crew was scuba certified except me.

So, they said the only way we can do the episode is a) if you agree to it, and b) if you're willing to get certified. In my soul I was thinking, *I am unwilling!* but I said yes. The experience of learning how to scuba dive was harrowing and challenging, and my anxiety was through the roof. But I learned everything I needed to learn, and we shot the episode in Hawai'i, which is an amazing place to do something that terrifies you. My co-host Charlie said to me that once we get down there and you see the things you can only see on this planet underwater, you're not going to think about how worried you are about breathing out of a metal tube on your back. And he was right. That was a life-altering experience. Once you have an experience with something like that, you care about it, and you want to protect it. May we find that for ourselves, and for families with kids, specifically when it comes to the planet. May we protect this space we have while we have it.

Do you ever get feedback from kids who are excited about topics they've heard about on the show?

Yes! Especially for *Who, When, Wow!*, sometimes kids will say, "Hey will you do an episode about this mystery or that mystery?" which is low-key very helpful, because in our forty episodes so far, we've now done a lot of the more well-known mysteries like the Bermuda Triangle, Amelia Earhart, and the Loch Ness Monster. Of course, we'll never run out of mysteries, but when a kid comes up because they, too, are a mystery enthusiast, that's my whole dream for the show—finding an audience of kids who are as obsessed with that stuff as I was as a kid. So, getting real ideas from kids about which mysteries they find compelling is great.

They retain the specifics so well. With *Weird But True*, which was fact based, we always used to say the facts that you're learning are like a party for your mind. Then you get to share them with people and give them a party for their mind!

I think with kids, they just need a little spark and then they take it from there. It sounds like you're igniting the sparks in a lot of different ways. I also think about that idea of how kids are like sponges picking up all the fact and details, so I'm really careful in my songwriting to fact check, be accurate, and choose my words. Do you feel a need to be careful about what you're saying and how you're saying it, so kids are not misled?

Totally. I think the training of the *Sunny Side Up* show honed the skill of using essential language. I wrote a lot of original songs for that show, and since the segments were short and they were for preschoolers, I couldn't get a lot of words in. My favorite thing about writing song lyrics is finding the simplest and most fun way to communicate something. So, you want it to be simple, you want it to be scaffolded. I want my words to be sticky. I think that has served me in my projects for older kids, that early training in how to be deliberate with language. You can be hilarious and silly, but it's really important to me that the things I communicate are clear and tangible.

> **"My favorite thing about writing song lyrics is finding the simplest and most fun way to communicate something."**

I think that's a great approach. Are there any other messages you want to share? What's the big picture? For me, I think about creating the next generation of scientists and inspiring kids to explore and think about what they will become. Do you think about that with your work, too?

In everything I do, I hope to empower kids to follow their specific and personal curiosity and enthusiasm wherever it takes them. Knowing that the journey can be winding and circular, and that that's such a gift of the human experience to be able to sink your teeth into anything that lights you up. I hope, in the things that I do, I offer or create the conditions for kids and families to have an experience of exploration and curiosity that is completely free and liberated. May you explore with no hesitations and no boundaries. Thinking of all that we have available to us right now with the internet and AI and the living world around us—may we harness all those things to explore beyond the limits of our imaginations.

Well, that's brilliant and beautiful. I feel like that's the goal for many of us who work in this area of kids' media and kids' music, and for me science specifically. It's about letting them be curious and teaching them to explore and have fun with it. I also think a lot about the trend of people who are anti-science and anti-facts, and making sure that our next generation appreciates facts and fact-finding and how to find answers. Do you have any thoughts about that?

Thank God we do what we do; otherwise, I don't know where I would put my energy. The squad is assembling. May we empower this generation to feel like they can look for the facts. Understand what's real and not real, and what's true and not true. And may they be free to be exactly who they are in whatever ways that expression that comes through. I wonder how all our work will shift and change, but I'm hopeful that there are so many people that are making beautiful, intelligent media for kids that we can offer a life raft if, and when, things get hard.

1. http://journal.childrensmusic.org/pass-it-on/author/marsha-goodman-wood
2. https://podcasts.apple.com/us/podcast/who-when-wow/id1586378518
3. https://www.youtube.com/watch?v=dbjZaXGEFiE

Pass It On! Scholars Award Essay

by Darius Kalantari

The Pass It On! *Scholars Award is given each fall to a high school senior, university, or college student, selected by CMN's Pass It On Project Reviewers as the candidate most likely, throughout their lifetime, to continue celebrating the positive power of music in the lives of children and to recognize the importance of networking and sharing knowledge, music, ideas, and songs.*

Hello! My name is Darius Kalantari. Ever since I can remember, children's music has surrounded me. It's literally been my life, from listening to it on the radio on the way to school or performing with my mom's band, Lucy Kalantari and the Jazz Cats. I feel that [especially] while you're young, it really helps to have music that you can connect to, feel, and/or relate to.

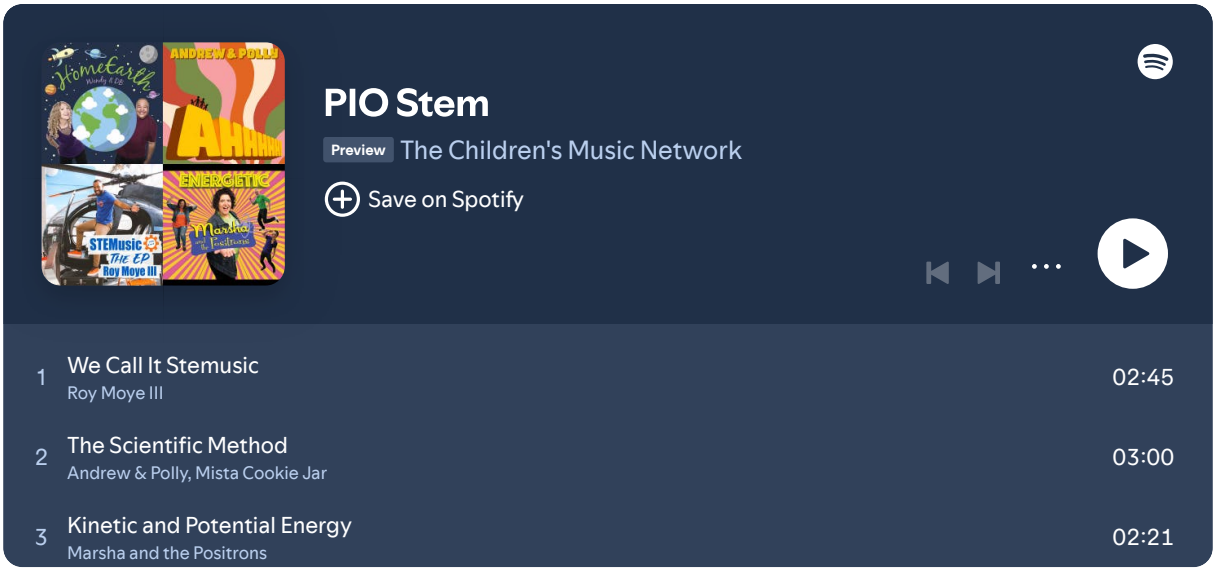
My goal has always been (and will continue to be) inspiring young aspiring musicians to finally get the courage to pick up an instrument and play their hearts out. As a cellist myself, I was inspired by other people, a group by the name of 2CELLOS. I would pick up my little ukulele and drumstick and pretend it was a cello, until one day, my mom said I could have a real cello. I strongly believe that the personality and attitude of a child depends on the music they listen to. That's true of most people, actually, not just kids. Coming from me as a much younger kid than a lot of the award recipients, I think that if a kid has the right music to listen to, that will drastically change their future in a good way.

I personally am exposed to the children's music community a lot, and never have I met such a group of genuinely happy, lively, and positive people. Not only does children's music help kids, it also helps the people who make it. And there's so much of it! I don't think my knowledge has even scratched the surface! I've always loved seeing the looks on kids' faces when they are so engaged in the shows. I think that children's music could change kids' lives and promote positivity in our future generations. Keep at it, Children's Music Network!

Playlists: Full STEM Ahead

curated by Esther Crow

Here are some songs to help kids rock, swing, and jam their way to scientific knowledge. For animal lovers, we've got polar bears, bumblebees, and seahorses, plus a catchy acronym for vertebrate classification. Earth science fans can learn about plant life and water. Those who like to blast off into space will take some wild rocket rides and explore the solar system. And if you want inspiration for aspiring inventors or a breakdown of the scientific method, you'll find it in these lists. Let's go full STEM ahead!



Listen to this playlist on Spotify[1]

Spotify Songs

1. "We Call It STEMusic" – Roy Moye III
2. "The Scientific Method" – Andrew & Polly, Mista Cookie Jar
3. "Kinetic and Potential Energy" – Marsha and the Positrons
4. "Plant a Seed" – Wendy and DB
5. "Solar System Trip" – Itty Bitty Beats
6. "Planet Earth" – Marko Polo
7. "Plant a Garden" – Jenn Cleary
8. "Solar Power" – Esther Crow
9. "Bugs" – Darrelle London
10. "Bumblebee Jamboree" – Mr. Evan V
11. "Little Mushroom" – Pierce Freelon, Nnenna Freelon
12. "Weird Science" – Patrick Adams, Uncle Dox
13. "Flight of the Butterflies" – DJ WILLY WOW!, Ra Flautista
14. "Rocketship" – Stacey Peasley
15. "Zoom, Zoom, Zoom" – Lavender Blues
16. "Lunar Oceans" – Claudia Robin Gunn
17. "H2O" – Liz Buchanan
18. "DNA" – Tim Seston
19. "Solar System" – Pam Donkin
20. "Science" – Charity and the Jamband

Watch this playlist on YouTube[2]

YouTube Songs

1. "We Call it STEMusic" – Roy Moye III
2. "Science Frontier" – Monty Harper
3. "Science Science Science" – KidzMusic
4. "Dinosaur Dance" – Heather Feather
5. "Little Tiny Molecules of H2O" – Debi Derryberry
6. "BlastOff" – Mr. Pete's Playhouse
7. "The Scientific Method for Kids" – Mr. Roy's Homeroom
8. "Seahorse Daddies" – Dorothy Cresswell
9. "Bees, Beavers and Bats" – Ester Crow feat. Lucy Kalantari
10. "The Solar System" – The Tom Knight Show
11. "Invent" – Ms. Margot
12. "Animal Classification Song/BRAMF! – BrainySongs
13. "That's The Earth" – MMMKids
14. "Polar Bears" – David Heitler-Klevans
15. "I've Got an Attitude (About My Latitude)" – Bob Swanson
16. "The Scientific Method" – Andrew & Polly, Mista Cookie Jar

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1. https://open.spotify.com/playlist/4nlfOFM1FD372wLrQpuUpf?si=840c34ee94c24311
2. https://www.youtube.com/watch?8MbMu5VvKgM&list=PLhgbavvXInxqoVkDjiYWDeB-zLcndx71a

The Scientific Method

words and music by Andrew Barkan, Polly Hall, and CJ Pizarro
© 2023 by Andrew & Polly[1]

Andrew & Polly (Andrew Barkan and Polly Hall) are award-winning children's music artists, podcasters, and composers for TV and film. This issue's featured song comes from the duo's 2023 Grammy-nominated album *Ahhhhh!* and is best introduced in their own words:

> "The Scientific Method" is a fun, beat-driven bop to inspire a new generation of scientists! We love science, and fill our home with maker kits, books on evolution and physics, nature documentaries, and plants. There are some amazingly catchy music out there teaching kids facts about animals, dinosaurs, space, and more, but we wanted to find a way to inform and inspire kids about the process of discovery itself. Isn't it incredible that throughout history, people have built knowledge by making guesses and testing them out?
>
> To do what *Hamilton* did to freshen up the history of the American Revolution, we just had to work with the Lin-Manuel Miranda of family music, Mista Cookie Jar (CJ Pizarro). We cowrote and coproduced the song with CJ, diving deep into the elements of peer review, bias, and a diverse range of legendary scientists we wanted to amplify. Our longtime collaboration did not disappoint!
>
> "The Scientific Method" has been included on multiple science class playlists and even made its way onto satellite radio. Through our interactive kids podcast *Ear Snacks*, we're constantly reminded that our audience around the world craves exciting, challenging new ways to think about the world and that no subject is too arcane or complex if it's framed in an engaging way. Our hypothesis keeps proving true: kids are fun and smart, so their media can be, too!

1. http://andrewandpolly.com

The Scientific Method

words and music by Andrew Barkan, Polly Hall, and CJ Pizarro
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Every day of my life
There are so many things that I don't know
Like why is that grass so super green?
How does light get into a lightbulb?

Why is the sky blue? Why does the rain fall?
How'd all the water get up there is all?
We got questions, does someone got some data?
'Cause really what's the dilly with anti-matter?

When there's a really good question, I can't shake it
It's stayin' in my brain, and I wanna make sense of it
Every scientist in history has followed
These specific steps to discovery . . . That's the Method.

Make a guess, kid!
Put it to the test, kid!
See what you get, kid—
That's the Method!! (The scientific method)

When you notice something and you're feeling curious
There's a series of steps to help you get serious
Observe, ask questions, figure out what you know
Research. Do the work. Now you're ready to roll!

You make a guess, an educated guess you can test.
Yes, yes! What's that called?
That's a hypothesis!
Let's try it out—see how it goes.
Whether it's right or wrong
You're gonna learn something, bros!

How can you tell if your guess is correct and verifiable?
Do an experiment to see if it's undeniable!
Is it describable? Quantifiable?
How do you open this? Use a pair of pliers, fool!

Run it again, do the results hold up?
If you can't repeat the process,
Then something is up!
No shenanigans, we gotta go again.
Work it 'til it's perfect—that's The Method!

Make a guess, kid!
Put it to the test, kid!
See what you get, kid—
That's the Method!! (The scientific method)

We got the M-E-T-H-O-D, peer-reviewed by science homies.
All the world's knowledge is at your toesies.
Let our minds progress, we are all scientists!

Einstein, Curie—Check your bias.
Goodall, Lovelace—Cause it's stuck inside us.
Raman, Boykin—We need fresh perspectives.
Let the mind profess, let our minds progress!

Carver and Copernicus—Made notes and sketches.
Hawking and McClintock—and then made some guesses.

Everyone of you should be making messes
Let the mind profess, we are all scientists!

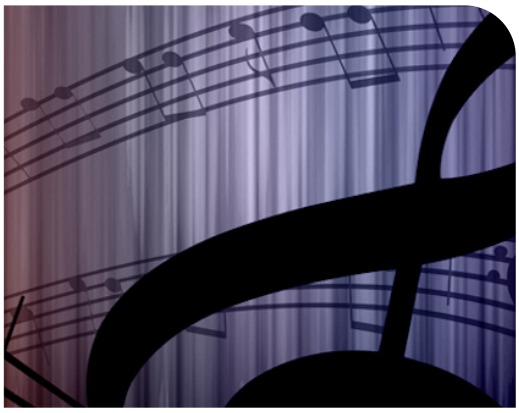
M-E-T-H-O-D—Put it to the test, kid!
The scientific method.
M-E-T-H-O-D—Put it to the test, kid!
In summary, what we have learned is this . . .

ONE! Ask a question
TWO! Look it up
THREE! Hypothesis
FOUR! Test it up
FIVE! Observation
SIX! Analysis
SEVEN! Share your work and that's . . . it!

Trial and error, science includes failure
That's the Method.

About PIO!

Pass It On! publishes thoughtful, informative articles on children's music, empowering those who teach, write, perform, share, and produce it to strengthen their craft and their advocacy. All articles are open to the public, providing CMN members and the wider community with news about exciting programs, music history, business tips, and in-depth interviews with music legends. Our songs for children —serious and silly, traditional and brand new, for all ages and from all over the world—are meant to be learned and shared.



CMN members receive exclusive access to songs and to all issues of *Pass It On!* Join Now[1]

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How to Submit Something to *Pass It On!*

Articles

Pass It On! always needs stories from members about what they're doing and how they're doing it. If you are a CMN member, you are invited to share your story. After all, that's the whole point of CMN.

Playlists

Pass It On! playlists feature songs by CMN members on Spotify and YouTube. Songs related to each issue's theme will be solicited regularly.

Interested? Read our guidelines for submission[8] to *Pass It On!*

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